

Restricted

5th Edition

A.P. 4326 B-P.N.

PILOT'S NOTES
CANBERRA B. Mk. 2

Restricted

AMENDMENTS

Amendment lists will be issued as necessary and should be inserted in the appropriate place in the Notes. New or amended paragraphs will be indicated by triangles positioned in the text thus: ◀.....▶ to show the extent of the amended text, and thus: ▶◀ to show where text has been deleted. When a page is issued or re-issued by amendment the number of the Amendment will appear at the bottom of the page. When a chapter is issued or re-issued in a completely revised form the triangles will not appear. Incorporation of an Amendment list must be certified by inserting the date of its issue, the date of incorporation and signature below.

Amdt. list		Signature	Date of Incorporation	Amdt. list		Signature	Date of Incorporation
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Comments and suggestions regarding Pilot's Notes should be forwarded to the Officer Commanding, Handling Squadron, Royal Air Force, Boscombe Down, Wiltshire.

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A.P.4326B-PN.
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PILOT'S NOTES

CANBERRA B. Mk. 2.

Prepared by Direction
of the
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Promulgated by Command
of the
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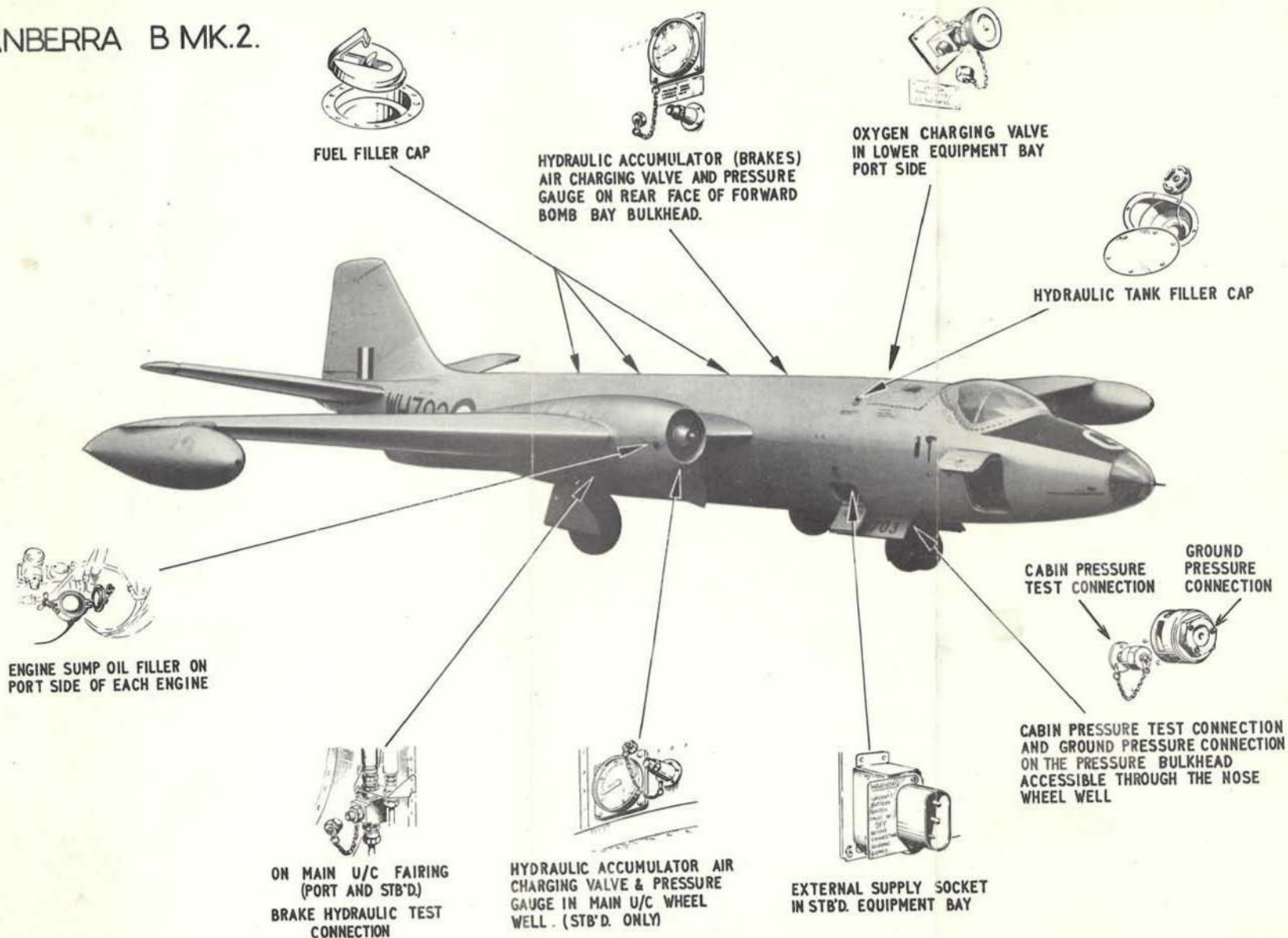
Henry Handman

H. J. Bean

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Frontispiece

CANBERRA B MK.2.



NOTES TO USERS

1. These Notes are complementary to A.P. 129 (6th Edition) Flying and should be read in conjunction with A.P.4326B-OD (Operating Data). It is assumed that all concerned have a thorough knowledge of the Chapters of A.P. 129 relevant to the operation of this type of aircraft.
2. Throughout these Notes the following conventions apply:—
 - (a) Unless otherwise stated, all speeds, Mach numbers and accelerometer readings quoted are "Indicated."
 - (b) Words in capital letters in the text indicate the actual marking on the controls concerned.
 - (c) Numbers quoted in brackets after items in the text of Part I, normally refer to the illustrations in Part V. The prefix letter refers to the illustration and the number to the item on that illustration, e.g., "(B.3)" refers to Fig. B. item 3.
3. The limitations quoted in Part II are mandatory and must never be exceeded except in an emergency. The contents of other Parts of the book are mainly advisory but instructions containing the word "must" are to be regarded as mandatory. (A.M.F.O. 24 refers).
4. Comments and suggestions should be forwarded to the Officer Commanding, Handling Squadron, Royal Air Force, Boscombe Down, Wilts.

LIST OF ASSOCIATED AIR PUBLICATIONS

<i>Title</i>	<i>A.P. No.</i>
Canberra B. Mk. 2 Aircraft ...	4326B
Avon Mk. 1 Aero-engine ...	4321A
Electrical manual ...	4343 Series
Engine starting systems ...	1181
Ejection seat equipment ...	4288A
Gee-H ...	2557G
Hydraulic equipment ...	1803 Series
IFF ...	2887D
Instrument manual ...	1275 Series
Intercomm. equipment ...	2876B
R.A.F. engineering ...	1464 Series
Rebecca ...	2914Y
Signal manual ...	1186 Series
VHF equipment ...	2538HA
Aircrew equipment assemblies ...	1182 Series
Navigation instruments ...	1275B
Oxygen equipment ...	1275G
Pressurising and air-conditioning equipment. ...	4340

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MODIFICATIONS MENTIONED IN THE TEXT

<i>Mod. No.</i>	<i>Title</i>	<i>Location in text (Pt., Chap., para.)</i>
CANBERRA MODS.		
5	Introduction of cold air unit	I, 8, 2
432	Overload tank in bomb-bay	I, 2, 1(c)
450	Emergency battery (24 volt)	I, 1, 5(a)
714	Two-speed drive generators	I, 1, 1(c)
887	Main hydraulic pressure gauge	I, 3, 1
1480	Fuel recuperators	I, 2, 3
◀2107	To introduce tailplane actuator AE4021 Mk. 1 and a revised elevator trim setting	III, 3, 3(d)
2360	Anti-dazzle lighting	I, 7, 7(b)(iii)
2712	See BC mod. 90 below	I, 2, 5(a)(iii)
3352	To introduce anti-collision lights	I, 7, 6
3367	Revised position for fuel gauge capacitor belt studs in No. 3 fuel tank	I, 2, 7(b)
3391	Co-axial cable and fuel con- tents gauge AG 144 for No. 3 fuel tank	I, 2, 7 (b)
3545	To revise the fuel pressure warning light setting	I, 2, 6(b)
3703	To delete the tank fire warning light	I, 7, 1(b)
3773	To permit the discharge of both heads of the dual headed fire extinguishers	I, 7, 1 I, 6, 7
3905	To introduce UHF	
3911	To revise fuel pressure warning light setting to 6-6½ PSI	I, 2, 6(b) ▶
AVON MODS.		
542	Introduction of Avon 100 series rotor blades	III, 3, 2(b)(ii)
857	Introduction of larger diameter interconnectors	III, 5, 3(b)
861	Compensation for changes in viscosity and density of fuel	II, 1, 3
EJECTION SEAT MODS.		
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545	Strengthened thigh-guards	I, 9 1(a)
577	Canopy breakers	I, 9 1(a)
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32	To lock open all fuel cocks	I, 2, 5(a)(ii)
90	To provide individual control of fuel cocks	I, 2, 5(a)(iii)

LEADING PARTICULARS

PRINCIPAL DIMENSIONS

	FT.	INS.
Span without tip tanks ...	64	0
Span with tip tanks ...	65	6
Length overall ...	65	6
Height to top of fin ...	15	7
Height to top of canopy ...	8	8

UNDERCARRIAGE

Mainwheel unit

Type ...	Single wheel	inwards	
	retracting		
Shock absorber ...	Oleo pneumatic		
Air pressure ...	Refer to Vol. 1		
Fluid ...	OM-15		
Capacity ...	12 pints		
Tyre pressures ...	AUW (lb.)		PSI
	30,000		65
	35,000		76
	40,000		88
	45,000		100
		}	± 5

Brakes

Pressure at reducing valve ...	...	2,500 (+0,-100) PSI
Pressure at brakes ...	...	1,500 (+150,-0) PSI

Nosewheel unit

Type ...	Twin wheel,	non-steerable,
	castering,	rearward retracting.
Shock absorber ...	Levered suspension, liquid spring.	
Pressure (wheels off ground) ...	1,500 PSI	
Fluid ...	OM 15	
Capacity ...	1½ pints	
Tyre pressure ...	Up to 40,000 lb. 68 PSI	
	Over 40,000 lb. 74 PSI	

HYDRAULIC SYSTEM

Fluid	... ..	OM-15
Pumps	... ..	Lockheed Mk. 9
Maximum (relief) pressure		2,500 PSI
Accumulator, charging gas		Air
Thermal relief valve setting		3,350 to 3,550 PSI (see Pt. 1, Chap. 3, Para. 3(b))
Number of pumps	... ..	Two
Capacity of system	... ..	33 pints (approx.)
Accumulator inflation pressures main and wheelbrakes:—		1,300 (+50,—0) PSI at +5°C 1,350 (+50,—0) PSI at +15°C 1,400 (+50,—0) PSI at +25°C
Cut-out valve setting	... ..	2,500 ± 100 PSI — ^{+ 0} — 100
Flaps relief valve setting		2,850 ± 50 PSI
Header tank relief valve setting	... ..	12 to 17 PSI

POWER UNITS

Engines

Name	... ..	Avon Mk. 1
Type	... ..	Jet turbine
Fuel	... ..	} Refer to Part II, Chapter 1
Oil	... ..
Oil system capacity	... ..	19 pints per engine including
Oil sump capacity	... ..	—16 pints per engine

Starting system

Type	... ..	Rolls Royce turbo, type SBS 720 Mk. 3, 4 or 5
Cartridge	... ..	No. 9 Mk. 1 (720 grammes).

Accessories gearboxes

Oil	... ..	OEP 71
Oil sump capacity	... ..	3½ pints.

ELECTRICAL SYSTEM

Voltage	... ..	28 volts
Generators	... ..	2 × 30v, 6 Kw, Type P.3
Aircraft battery	... ..	4 × 12v, 40 amp. hr. Type c connected in series parallel.
Emergency battery	... ..	2 × 12v, 4 amp. hr., connected in series.

FUEL SYSTEM

Type of fuel ... AVTUR/50, OR AVTAG (JP4) (See Pt. II, Ch. 1).

Tank capacities At 7.7 lb./gall. 8.0 lb./gall.

No. 1 520 gall. ... 4,004 lb. 4,160 lb.

No. 2 317 gall. ... 2,441 lb. 2,536 lb.

No. 3 540 gall. ... 4,158 lb. 4,320 lb.

Total 1,377 gall. ... 10,603 lb. 11,016 lb.

Wing tip tanks

Port 244 gall. ... 1,878.5 lb. 1,952 lb.

Starboard 244 gall. ... 1,878.5 lb. 1,952 lb.

Total 1,865 gall. ... 14,360 lb. 14,920 lb.

Overload tank (if fitted)

300 gall. ... 2,310 lb. 2,400 lb.

Total 2,165 galls. ... 16,670 17,320

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INTRODUCTION

1. General

The Canberra B. Mk. 2 is a light bomber powered by two Avon Mk. 1 engines each giving 6,500 lb. static thrust at sea level.

2. Armament

Bombs or flares may be carried in the bomb bay in the belly of the fuselage. Bomb controls are on the control column, and at the bomb aimer's rear and forward stations.

3. Crew accommodation

The crew cabin is pressurised and extends from the nose fairing to an aft sloping bulkhead which seals off the compartment from the remainder of the fuselage. Accommodation is provided for a crew of three seated in ejection seats. There is an alternative position in the nose for the bomb-aimer but no provision is made for his ejection from this station. A folding seat is provided for occasional use on the starboard side of the cockpit.

4. Entrances and emergency exits

Entrance for all crew members is through the entrance door on the starboard side in line with the pilot's seat. The canopy and navigator's hatch are jettisonable and provide emergency exits for crew members.

5. Fuselage

There are four bays, upper, lower, port and starboard immediately aft of the pressure bulkhead, containing various items of aircraft equipment.

6. Flying controls

The ailerons, elevators and rudder are all manually operated. The variable-incidence tail-plane, aileron trim and rudder trim are all electrically operated.

7. Layout of controls and instruments

(a) Pilot's station

The location of the flying controls is conventional, other controls and instruments are grouped as follows:—

(i) To the left of the pilot on the cockpit port wall, on the port console and on the engine controls quadrant. (Fig B).

(ii) In front of the pilot on the main instrument panel, on the coaming above this panel and on the engine starter panel. (Fig C). The main instrument panel is divided into three sections, from left to right; the flight instruments panel, the engine instruments panel and the miscellaneous instruments panel.

(b) Navigator's station

The navigator's controls and instruments are grouped around him on the cabin port wall, (Fig. D) on the forward instrument panel and equipment racks (Fig E) and on the electrical control panel (ECP) (Fig. A) between the cockpit and cabin.

(c) Bomb-aimer's stations

The bomb aimer's controls and equipment are grouped on the fuselage starboard wall (Fig. F) at the ejection seat position, also in the nose and on the port and starboard sides at the forward position.

(d) The location of all controls and instruments is given relative to the above positions.

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